

## CLAIMS

What is claimed is:

1. A method of producing a sampled image comprising the steps of:  
providing a plurality of sensor positions in a row arrangement  
5 non-uniformly distributed with varying distances between each adjacent pair of  
sensor positions according to a first predetermined schema; and  
sampling an image by sequentially exposing image portions to said  
row arrangement to obtain a first set of data samples representing  
non-uniformly spaced points in said image.
- 10 2. The method as set forth in Claim 1 wherein said first predetermined schema  
comprises a pseudo-random schema.
3. The method as set forth in Claim 1 wherein said first predetermined schema  
comprises a nonlinear polynomial schema.
4. The method as set forth in Claim 1 further comprising the step of assigning  
15 a reference identifier to said first predetermined schema.
5. The method as set forth in Claim 1 wherein said step of sampling an image by  
sequentially exposing image portions to said row arrangement comprises  
selectively sampling according to a second predetermined schema such that  
each sensor position is sampled in a non-uniformly varying spatial manner.
- 20 6. The method as set forth in Claim 5 wherein said second predetermined schema  
comprises a pseudo-random schema.
7. The method as set forth in Claim 5 wherein said second predetermined schema

comprises a nonlinear polynomial schema.

8. The method as set forth in Claim 5 further comprising the step of assigning a reference identifier to said first predetermined schema.
9. The method as set forth in Claim 1 further comprising the step of interpolating  
5 a set of data samples representing uniformly spaced data samples from said first set of data samples.
10. A computer readable medium encoded with software for producing a sampled image using an sensor array having sensor positions in a row arrangement distributed with varying distances between each adjacent pair of sensor  
10 positions according to a first predetermined schema, said software causing a processor to perform the steps of:  
  
    sequentially exposing image portions to said row arrangement; and  
  
    sampling said sensor positions to obtain a first set of data samples representing non-uniformly spaces points in said image.
- 15 11. The computer readable medium as set forth in Claim 10 wherein said software for sampling said sensor positions comprises software for selectively sampling according to a predetermined schema such that each sensor position is sampled in a non-uniformly varying spatial manner.
12. The computer readable medium as set forth in Claim 11 wherein said  
20 predetermined schema comprises a pseudo-random schema.
13. The computer readable medium as set forth in Claim 11 wherein said predetermined schema comprises a nonlinear polynomial schema.

14. The computer readable medium as set forth in Claim 10 further comprising software for interpolating a set of data samples representing uniformly spaced data samples from said first set of data samples.
15. A system for producing a sampled image comprising:
- 5 a plurality of sensors positioned in a row arrangement distributed with varying distances between each adjacent pair of sensor according to a first predetermined schema; and
- means for sampling an image by sequentially exposing image portions to said row arrangement to obtain a first set of data samples representing
- 10 non-uniformly spaced points in said image.
16. The system as set forth in Claim 15 wherein said first schema for sensor positioning is a pseudo-random schema.
17. The system as set forth in Claim 15 wherein said first schema for sensor positioning is a nonlinear polynomial schema.
- 15 18. The system as set forth in Claim 15 wherein said means for sampling an image comprises a means for selectively sampling according to a second predetermined schema such that each sensor position is sampled in a varying spatial manner.
19. The system as set forth in Claim 18 wherein said second predetermined
- 20 schema comprises a pseudo-random schema.
20. The system as set forth in Claim 18 wherein said second predetermined schema comprises a nonlinear polynomial schema.

21. The system as set forth in Claim 15 further comprising a means for generating a uniformly-spaced data sample by interpolating said first set of data samples.